

Declaration for Persons in Detention and Detention Staff
COVID-19

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I, Chris Beyrer, declare as follows:

1. I am a professor of Epidemiology, International Health, and Medicine at the Johns Hopkins Bloomberg School of Public Health, where I regularly teach courses in the epidemiology of infectious diseases. This coming semester, I am teaching a course on emerging infections. I am a member of the National Academy of Medicine, a former President of the International AIDS Society, and a past winner of the Lowell E. Bellin Award for Excellence in Preventive Medicine and Community Health. I have been active in infectious diseases Epidemiology since completing my training in Preventive Medicine and Public Health at Johns Hopkins in 1992.
2. I am currently actively at work on the COVID-19 pandemic in the United States. Among other activities I am the Director of the Center for Public Health and Human Rights at Johns Hopkins, which is active in disease prevention and health promotion among vulnerable populations, including prisoners and detainees, in the US, Africa, Asia, and Latin America.

The nature of COVID-19

3. The SARS-nCoV-2 virus, and the human infection it causes, COVID-19 disease, is a global pandemic and has been termed a global health emergency by the WHO. Cases first began appearing sometime between December 1, 2019 and December 31, 2019 in Hubei Province, China. Most of these cases were associated with a wet seafood market in Wuhan City.
4. On January 7, 2020, the virus was isolated. The virus was analyzed and discovered to be a coronavirus closely related to the SARS coronavirus which caused the 2002-2003 SARS epidemic.
5. COVID-19 is a serious disease. The overall case fatality rate has been estimated to range from 0.3 to 3.5%, which is 5-35 times the fatality associated with influenza infection. COVID-19 is characterized by a flu-like illness. While more than 80% of cases are self-limited and generally mild, overall some 20% of cases will have more severe disease requiring medical intervention and support.
6. The case fatality rate varies significantly depending on the presence of certain demographic and health factors. The case fatality rate is higher in men, and varies significantly with advancing age, rising after age 50, and above 5% (1 in 20 cases) for those with pre-existing medical conditions including cardio-vascular disease, respiratory disease, diabetes, and immune compromise.
7. Among patients who have more serious disease, some 30% will progress to Acute Respiratory Distress Syndrome (ARDS) which has a 30% mortality rate overall, higher in those with other health conditions. Some 13% of these patients will require mechanical

ventilation, which is why intensive care beds and ventilators have been in insufficient supply in Italy, Iran, and parts of China.

8. COVID-19 is widespread. Since it first appeared in Hubei Province, China, in late 2019, outbreaks have subsequently occurred in more than 100 countries and all continents, heavily affected countries include Italy, Spain, Iran, South Korea, and increasingly, the US. As of today, March 16th, 2020, there have been 178,508 confirmed human cases globally, 7,055 known deaths, and some 78,000 persons have recovered from the infection. The pandemic has been termed a global health emergency by the WHO. It is not contained and cases are growing exponentially.
9. SARS-nCoV-2 is now known to be fully adapted to human to human spread. This is almost certainly a new human infection, which also means that there is no pre-existing or "herd" immunity, allowing for very rapid chains of transmission once the virus is circulating in communities.
10. The U.S. CDC estimates that the reproduction rate of the virus, the R_0 , is 2.4-3.8, meaning that each newly infected person is estimated to infect on average 3 additional persons. This is highly infectious and only the great influenza pandemic of 1918 (the Spanish Flu as it was then known) is thought to have higher infectivity. This again, is likely a function of all human populations currently being highly susceptible. The attack rate given an exposure is also high, estimated at 20-30% depending on community conditions, but may be as high as 80% in some settings and populations. The incubation period is thought to be 2-14 days, which is why isolation is generally limited to 14 days.

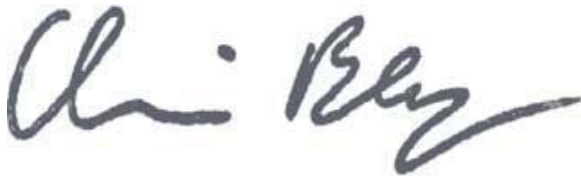
The risks of COVID-19 in detention facilities

11. COVID-19 poses a serious risk to inmates and workers in detention facilities. Detention Facilities, including jails, prisons, and other closed settings, have long been known to be associated with high transmission probabilities for infectious diseases, including tuberculosis, multi-drug resistant tuberculosis, MRSA (methicillin resistant staph aureus), and viral hepatitis.
12. The severe epidemic of Tuberculosis in prisons in Central Asia and Eastern Europe was demonstrated to increase community rates of Tuberculosis in multiple states in that region, underscoring the risks prison outbreaks can lead to for the communities from which inmates derive.
13. Infections that are transmitted through droplets, like influenza and SARS-nCoV-2 virus, are particularly difficult to control in detention facilities, as 6-foot distancing and proper decontamination of surfaces is virtually impossible. For example, several deaths were reported in the US in immigration detention facilities associated with ARDS following influenza A, including a 16-year old male immigrant child who died of untreated ARDS in custody in May, 2019.
14. A number of features of these facilities can heighten risks for exposure, acquisition, transmission, and clinical complications of these infectious diseases. These include physical/mechanical risks such as overcrowding, population density in close confinement, insufficient ventilation, shared toilet, shower, and eating environments and limits on hygiene and personal protective equipment such as masks and gloves in some facilities.
15. Additionally, the high rate of turnover and population mixing of staff and detainees increases likelihoods of exposure. This has led to prison outbreaks of COVID-19 in multiple detention facilities in China, associated with introduction into facilities by staff.

16. In addition to the nature of the prison environment, prison and jail populations are also at additional risk, due to high rates of chronic health conditions, substance use, mental health issues, and, particularly in prisons, aging and chronically ill populations who may be vulnerable to more severe illnesses after infection, and to death.
17. While every effort should be made to reduce exposure in detention facilities, this may be extremely difficult to achieve and sustain. It is therefore an urgent priority in this time of national public health emergency to reduce the number of persons in detention as quickly as possible.
18. Pre-trial detention should be considered only in genuine cases of security concerns. Persons held for non-payment of fees and fines, or because of insufficient funds to pay bail, should be prioritized for release. Immigrants awaiting decisions on their removal cases who are not a flight risk can be monitored in the community and should be released from immigration detention centers. Older inmates and those with chronic conditions predisposing to severe COVID-19 disease (heart disease, lung disease, diabetes, immune-compromise) should be considered for release.
19. Given the experience in China as well as the literature on infectious diseases in jail, an outbreak of COVID-19 among the U.S. jail and prison population is likely. Releasing as many inmates as possible is important to protect the health of inmates, the health of correctional facility staff, the health of health care workers at jails and other detention facilities, and the health of the community as a whole.

Pursuant to 28 U.S.C. 1746, I declare under penalty of perjury that the foregoing is true and correct.

Executed this 16th day of March, 2020.

A handwritten signature in dark ink, appearing to read "Chris Beyrer". The signature is fluid and cursive, with a long horizontal stroke at the end.

Professor Chris Beyrer¹

¹ These views are mine alone; I do not speak for Johns Hopkins University or any department therein.

References

Stuckler D, Basu S, McKee M, King I. Mass incarceration can explain population increases in TB and multi-drug resistant TB in European and Central Asian countries. *Proceedings of the National Academy of Science USA*, 2008. 105:13280-85.

Beyrer C, Kamarulzaman A, McKee M; Lancet HIV in Prisoners Group. Prisoners, prisons, and HIV: time for reform. *The Lancet*. 2016 Jul 14. pii: S0140-6736(16)30829-7. doi: 10.1016/S0140-6736(16)30829-7. [Epub ahead of print] No abstract available.
PMID: 27427447.

Marusshak LM, Sabol W, Potter R, Reid L, Cramer E. Pandemic Influenza and Jail Facilities and Populations. *American Journal of Public Health*. 2009 October; 99(Suppl 2): S339–S344.

Rubenstein LS, Amon JJ, McLemore M, Eba P, Dolan K, Lines R, Beyrer C. HIV, prisoners, and human rights. *The Lancet*. 2016 Jul 14. pii: S0140-6736(16)30663-8. doi: 10.1016/S0140-6736(16)30663-8

Wang J, Ng, CY, Brook R. Response to COVID-19 in Taiwan: Big Data Analytics, New Technology, and Proactive Testing. March 3, 2020. *JAMA*. Published online March 3, 2020. doi:10.1001/jama.2020.3151